<110> Huang, Ziwei

<120> A novel peptide antagonist of CXCR4 derived from the
      N-terminus of viral chemokine vMIP-II

<130> CXCR4 Peptide Antagonist Prov.

<140>
<141>

<160> 33

<170> PatentIn Ver. 2.1

<210> 1
<211> 71
<212> PRT
<213> Herpesvirus

<400> 1
Leu Gly Ala Ser Trp His Arg Pro Asp Lys Cys Cys Leu Gly Tyr Gln
 1   5   10   15

Lys Arg Pro Leu Pro Gln Val Leu Leu Ser Ser Trp Tyr Pro Thr Ser
            20   25   30

Gln Leu Cys Ser Lys Pro Gly Val Ile Phe Leu Thr Lys Arg Gly Arg
        35   40   45

Gln Val Cys Ala Asp Lys Ser Lys Asp Trp Val Lys Lys Leu Met Gln
    50   55   60

Gln Leu Pro Val Thr Ala Arg
65   70

<210> 2
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: vMIP-II
      derived peptide

<400> 2

1

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Leu Gly Ala Ser Trp His Arg Pro Asp Lys Cys Cys Leu Gly Tyr Gln
 1               5                   10                  15

Lys Arg Pro Leu Pro
            20


<210> 3
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:  vMIP-II
      derived peptide

<400> 3
His Arg Pro Asp Lys Cys Cys Leu Gly Tyr Gln Lys Arg
 1               5                   10


<210> 4
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:  vMIP-II
      derived peptide

<400> 4
Leu Gly Ala Ser Trp His Arg Pro Asp Lys
 1               5                   10


<210> 5
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:  vMIP-II
      derived peptide

<400> 5
Leu Gly Tyr Gln Lys Arg Pro Leu Pro Gln Val Leu Leu Ser Ser Trp
 1               5                   10                  15
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Tyr Pro Thr Ser Gln Leu
                20

<210> 6
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: vMIP-II
      derived peptide

<400> 6
Lys Pro Val Ser His Arg Pro Asp Lys Cys Cys Leu Gly Tyr Gln Lys
  1   5   10   15

Arg Pro Leu Pro
                20

<210> 7
<211> 23
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: vMIP-II
      derived peptide

<400> 7
Gln Val Leu Leu Ser Ser Trp Tyr Pro Thr Ser Gln Leu Cys Ser Lys
  1   5   10   15

Pro Gly Val Ile Phe Leu Thr
                20

<210> 8
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: vMIP-II
      derived peptide

<400> 8

Ser Lys Pro Gly Val Ile Phe Leu Thr Lys Arg Gly Arg Gln Val Cys
 1   5   10   15

Ala Asp Lys Ser Lys Asp
            20

<210> 9
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: vMIP-II
      derived peptide

<400> 9
Ala Asp Lys Ser Lys Asp Trp Val Lys Lys Leu Met Gln Gln Leu Pro
 1   5   10   15

Val Thr Ala Arg
            20

<210> 10
<211> 11
<212> PRT
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<220>
<223> Description of Artificial Sequence: vMIP-II
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<400> 10
Cys Thr Ser Gln Leu Ala Ser Lys Pro Gly Cys
 1   5   10

<210> 11
<211> 11
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<220>
<223> Description of Artificial Sequence: vMIP-II
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<400> 11

4

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Cys Phe Leu Thr Lys Arg Gly Arg Gln Val Cys
 1               5                   10


<210> 12
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:  vMIP-II
      derived peptide

<400> 12
Leu Gly Ala Ser Trp His Arg Pro Asp Lys Ala Ala Leu Gly Tyr Gln
 1               5                   10                  15

Lys Arg Pro Leu Pro
          20


<210> 13
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:  vMIP-II
      derived peptide

<400> 13
Ala Gly Ala Ser Trp His Arg Pro Asp Lys Cys Cys Leu Gly Tyr Gln
 1               5                   10                  15

Lys Arg Pro Leu Pro
          20


<210> 14
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
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      derived peptide

<400> 14
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Leu Gly Ala Ser Ala His Arg Pro Asp Lys Cys Cys Leu Gly Tyr Gln
  1               5                   10                  15

Lys Arg Pro Leu Pro
              20


<210> 15
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:  vMIP-II
      derived peptide

<400> 15
Leu Gly Ala Ser Trp His Ala Pro Asp Lys Cys Cys Leu Gly Tyr Gln
  1               5                   10                  15

Lys Arg Pro Leu Pro
              20


<210> 16
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
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      derived peptide

<400> 16
Leu Gly Ala Ser Trp His Arg Pro Asp Ala Cys Cys Leu Gly Tyr Gln
  1               5                   10                  15

Lys Arg Pro Leu Pro
              20


<210> 17
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:  vMIP-II
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6

derived peptide

<400> 17

Leu Gly Ala Ser Trp His Arg Pro Asp Lys Ala Cys Leu Gly Tyr Gln
 1   5   10   15

Lys Arg Pro Leu Pro
            20

<210> 18
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
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      derived peptide

<400> 18

Leu Gly Ala Ser Trp His Arg Pro Asp Lys Cys Cys Leu Gly Tyr Ala
 1   5   10   15

Lys Arg Pro Leu Pro
            20

<210> 19
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: vMIP-II
      derived peptide

<400> 19

Leu Gly Ala Ser Trp His Arg Pro Asp Lys Cys Cys Leu Gly Tyr Gln
 1   5   10   15

Lys Ala Pro Leu Pro
            20

<210> 20
<211> 21
<212> PRT
<213> Artificial Sequence

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<220>
<223> Description of Artificial Sequence:  vMIP-II
      derived peptide

<400> 20
Pro Leu Pro Arg Lys Gln Tyr Gly Leu Cys Cys Lys Asp Pro Arg His
  1               5                  10                  15

Trp Ser Ala Gly Leu
            20


<210> 21
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<221> VARIANT
<222> (1)..(21)
<223> all amino acids in this peptide fragement are
      D-amino acids

<220>
<223> Description of Artificial Sequence:  vMIP-II
      derived peptide

<400> 21
Leu Gly Ala Ser Trp His Arg Pro Asp Lys Cys Cys Leu Gly Tyr Gln
  1               5                  10                  15

Lys Arg Pro Leu Pro
            20


<210> 22
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<221> VARIANT
<222> (1)..(21)
<223> all amino acids in this peptide are D-amino acids

<220>
<223> Description of Artificial Sequence:  vMIP-II
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8

derived peptide

<400> 22
Pro Leu Pro Arg Lys Gln Tyr Gly Leu Cys Cys Lys Asp Pro Arg His
1   5   10   15

Trp Ser Ala Gly Leu
            20

<210> 23
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<221> VARIANT
<222> (1)..(10)
<223> amino acids residues #1 through #10 are D-amino
      acids, the remaining residues are L-amino acids

<220>
<223> Description of Artificial Sequence: vMIP-II
      derived peptide

<400> 23
Leu Gly Ala Ser Trp His Arg Pro Asp Lys Cys Cys Leu Gly Tyr Gln
1   5   10   15

Lys Arg Pro Leu Pro
            20

<210> 24
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<221> UNSURE
<222> (11)..(21)
<223> amino acids #11 through #21 are D-amino acids,
      #1-10 are L-amino acids

<220>
<223> Description of Artificial Sequence: vMIP-II
      derived peptide

9

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<400> 24
Leu Gly Ala Ser Trp His Arg Pro Asp Lys Cys Cys Leu Gly Tyr Gln
  1               5                   10                  15

Lys Arg Pro Leu Pro
            20


<210> 25
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
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<222> (1)..(21)
<223> all amino acids are D-amino acids

<220>
<223> Description of Artificial Sequence:  vMIP-II
      derived peptide

<400> 25
Ala Gly Ala Ser Trp His Arg Pro Asp Lys Cys Cys Leu Gly Tyr Gln
  1               5                   10                  15

Lys Arg Pro Leu Pro
            20


<210> 26
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
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<222> (1)..(21)
<223> all amino acids are D-amino acids

<220>
<223> Description of Artificial Sequence:  vMIP-II
      derived peptide

<400> 26
Leu Gly Ala Ser Ala His Arg Pro Asp Lys Cys Cys Leu Gly Tyr Gln
  1               5                   10                  15
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Lys Arg Pro Leu Pro
            20

<210> 27
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
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<222> (1)..(21)
<223> all amino acids are D-amino acids

<220>
<223> Description of Artificial Sequence: vMIP-II
      derived peptide

<400> 27
Leu Gly Ala Ser Trp His Ala Pro Asp Lys Cys Cys Leu Gly Tyr Gln
 1   5   10   15

Lys Arg Pro Leu Pro
            20

<210> 28
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
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<222> (1)..(21)
<223> all amino acids are D-amino acids

<220>
<223> Description of Artificial Sequence: vMIP-II
      derived peptide

<400> 28
Leu Gly Ala Ser Trp His Arg Pro Asp Ala Cys Cys Leu Gly Tyr Gln
 1   5   10   15

Lys Arg Pro Leu Pro
            20

<210> 29
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
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<222> (1)..(21)
<223> all amino acids are D-amino acids

<220>
<223> Description of Artificial Sequence: vMIP-II
derived peptide

<400> 29
Leu Gly Ala Ser Trp His Arg Pro Asp Lys Ala Cys Leu Gly Tyr Gln
 1   5   10   15

Lys Arg Pro Leu Pro
            20

<210> 30
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
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<222> (1)..(21)
<223> all amino acids are D-amino acids

<220>
<223> Description of Artificial Sequence: vMIP-II
derived peptide

<400> 30
Leu Gly Ala Ser Trp His Arg Pro Asp Lys Cys Cys Leu Gly Tyr Ala
 1   5   10   15

Lys Arg Pro Leu Pro
            20

<210> 31
<211> 21
<212> PRT
<213> Artificial Sequence

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<220>
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<222> (1)..(21)
<223> all amino acids are D-amino acids

<220>
<223> Description of Artificial Sequence:  vMIP-II
      derived peptide

<400> 31
Leu Gly Ala Ser Trp His Arg Pro Asp Lys Cys Cys Leu Gly Tyr Gln
  1               5                   10                  15

Lys Ala Pro Leu Pro
            20


<210> 32
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
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<222> (1)..(21)
<223> all amino acids are D-amino acids

<220>
<223> Description of Artificial Sequence:  vMIP-II
      derived peptide

<400> 32
Leu Gly Ala Ser Trp His Arg Pro Asp Lys Ala Ala Leu Gly Tyr Gln
  1               5                   10                  15

Lys Arg Pro Leu Pro
            20


<210> 33
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<221> VARIANT
<222> (1)..(10)
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